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**SECURITY INTERESTS, CREDITORS’
PRIORITIES AND BANKRUPTCY**

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Abstract

The law of creditors’ remedies in developed western economies has a dual character. This title reviews the law and economics literature which addresses four principle issues raised by this duality: First, when individualized remedies are appropriate vs. when collective proceedings are called for; second, should the remedy system be asset-based, or rather should it be based on claimant type; third, what explains the first-in-time and last-in-time priority system and the priority granted to secured creditors under nonbankruptcy law and when should that law be abandoned in favor of ratable sharing priorities; and finally, what explains the existence of corporate reorganization law under which investment contracts are modified ex post. The review points out that the existing explanations found for the last three questions are all subsets of the answers given to the first question.

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A. The Development of Creditors’ Remedies: An Introduction

1. Legal Rights and Creditors’ Remedies

Much of the private law of developed economies consists of the law of civil (as opposed to criminal) obligations. The law of contract, for example, will specify the legal consequences of the failure to keep promises. Similarly, the law of tort provides the outcomes when one person’s substandard behavior harms someone else. The law of property regulates the interactions and relationships between persons and things and grants certain entitlements to the ‘owners’ of the property. The resulting private law legal ‘rights’ (to have promises performed, not to be harmed by others and to control one’s property) naturally imply legal duties or obligations on the part of the promise breaker, the tortfeasor or the trespasser. Private law not only describes the shape of these rights and duties,

it also specifies what steps the state is willing to take on behalf of the right-holder against the persons who owe the resulting duties, in order to see that the rights are vindicated. The doctrines which describe what steps the state will take in order that private rights are given effect are known to lawyers as the law of creditors' remedies.

The most common legal recourse is substitutionary. Legal rights and obligations are, most often, expressed in terms of the obligation to pay or the right to collect money, calculated usually as the amount needed to compensate the creditor for the difference between the market value of the creditor's position in a world in which the debtor performs and the value of that position after the debtor breaches his or her duty. The creditor's legal remedy necessarily involves the use of an agent of the state to seize assets owned by the debtor. The agent will usually liquidate those assets in some sort of market (typically a local auction), distributing the proceeds of the liquidation sale to the creditor, in satisfaction of the debt.

2. The Relevance of Priority

As long as the legal issue involves only a single creditor disputing with a single debtor, creditors' remedies can be viewed simply as the teeth which give legal bite to property rights. In any case, in a world in which each debtor had only one creditor, the law would have no occasion to provide creditors with the rights to obtain security for their loans, nor would the issue of priority among multiple creditors arise. Understanding financial security devices and priorities as among creditors must thus begin with the intuition that when more than one creditor has claims against any debtor, there is a potential collective action problem to be solved (Baird, 1987a). There is, indeed, a substantial literature which questions whether a serious collective action problem exists in the first place (Adler, 1994b) and, if so, of just what must it necessarily consist and if the problem is adequately defined, just how adjusting priorities among creditors addresses it.

3. Property Theory and Race Priority

In legal theory, once the individual creditors' remedy process was carried out, what used to be the debtor's property had become, in effect, the creditor's instead. This logic led, in cases with multiple seizing creditors, to a 'race' system of priority. Once the first creditor had made item of property A his in the process, item A was no longer available to be seized by competing creditors, because A was no longer the debtor's property. Later seizing creditors,

accordingly, were left to look to items B ... N or whatever was left in the debtor's portfolio in order to satisfy their claims. The creditors' remedy system was never designed to take A's property away from him and to use it to pay B's debts. The priority system resulting from the application of the property theory of the law is 'the devil take the hindmost'.

4. Contractual Priority

Historically, creditors undoubtedly realized that the one-on-one private creditors' remedy of seizure and sale was adequate only in cases when the debtor had plenty of valuable assets left to be seized. The earliest versions of secured lending were developed from the legal theory of property by the creation of simulated sales. The debtor 'sold' the collateral to the creditor and simultaneously signed a side deal under which the property would be reconveyed to him upon a repayment of the putative 'repurchase price' (amount loaned). Thereafter, the debtors' other creditors could not seize and sell the collateral because it now 'belonged' to the secured creditor until the reconveyance price had been paid. On the other hand, the debtor took a corresponding risk that the collateral could now be seized by the *creditor's* creditors, since it belonged to the creditor until reconveyed.

Lawyers had also developed the property theory of law to permit the fractionalizing of property interests in any asset. Alphonse and Gastogne, for example, each could own a half interest in all of Blackacre, rather than each separately owning the respective north and south halves. At a very early time lawyers were able to extrapolate on the simulated sale technique by exploiting the legal notion of fractionalized property rights to guarantee the availability to their creditor client of assets to seize and sell, without subjecting the debtor to the risk that the collateral might be lost to the secured creditor's own creditors. The 'mortgage' interest developed into what was conceived of, in legal theory, as another sort of fractionalized property interest in the collateral, a conditional right to seize and sell the collateral unless the loan was repaid (Nelson and Whitman, 1985). If the debt was not paid, then the creditor could exercise its particular fractionalized property right in the collateral (the contingent right to seize and sell the asset upon default) and thus could liquidate it himself to obtain repayment from the proceeds. Correspondingly, the debtor as only one of the two co-owners of the aggregate rights in the property could not convey the collateral to anybody else either, since the secured creditor owned that important fractionalized interest in it and so the

creditor was assured that the collateral would always be available to look to for repayment. Earlier seizing creditors could seize the collateral but their seizure was effective only subject to the secured creditor's rights because, until the debt was paid, the fractional interest consisting of the right to seize and sell it was 'owned' by the creditor and not by the debtor.

B. From Property Theory to Security to Bankruptcy Law

5. The Regulation of Contractual Priority

The simulated 'sale' of the collateral gave rise to some obvious perverse incentives. After most of the debt had been repaid, for example, the creditor had an incentive to provoke any default by the debtor so as to be able to assert a right to the collateral as its owner *and* to retain any funds actually repaid. Gradually, courts began to regulate the secured transaction, by requiring the creditor to foreclose and sell the collateral, refunding any funds collected from the sale in excess of the balance due on the loan to the debtor. By the nineteenth century, the legal theory of a mortgage as a conditional property right retained by the creditor became the ascendent view of the law of secured transactions. Probably because the creditor community sensed that its members would come to rely on the apparent ownership of persons in possession of property, it became a legislated requirement that fractional, conditional interests like the mortgage not be kept secret, so that the enforceability of the bargain for security was made contingent on the lender's giving of a public notice of the existence of the mortgage interest (Baird, 1983). The legal property rights theory of the value of security devices described above continues to be the favored explanation for their existence even today by some commentators (Harris and Mooney, 1994).

6. The Emergence of Modern Bankruptcy Legislation

Finally, in the United States in the twentieth century, the above described nonbankruptcy creditors' remedy system, with its race for priority feature, became supplemented (and often supplanted) by national bankruptcy legislation which provided for a collective proceeding to be conducted in which the debtor and all of his creditors settled the debtor's affairs in a single case. The federal 1898 Bankruptcy Act was extensively revised in 1938 and then again in 1978, so the last century has seen much evolution in the legal details of bankruptcy proceedings. Nevertheless, the conventional legal view is that bankruptcy is

rightfully seen as a staple feature of the background law which establishes the American capital and asset markets (Warren, 1987).

C. The Four Strands of the Law and Economics Research Agenda

As the above summary of legal doctrine suggests, there are really two systems of remedies existing concurrently: the nonbankruptcy system which, in the United States; is a creature of the law of each of the 50 sovereign states and the Federal law of Bankruptcy. The mission of Law and Economics scholarship is thus to explain the existence of each of the two systems and justify the shapes of each. There is also the question of how to coordinate the two systems - the issue of which system should govern and in what circumstances. Existing law and economics analysis has tended to focus on four salient features of the nonbankruptcy system and how its outcomes tend to differ from the bankruptcy outcomes. The four strands of the literature can be described as follows:

7. Individual vs. Collective Proceedings?

First the nonbankruptcy system can be fairly characterized as a system of remedies given to individuals. It focusses on a debtor and a creditor and on the procedures which affect *only* those two parties. Bankruptcy systems, in contrast, are inherently collective, involving all of the debtor's creditors in the same legal proceedings. Thus it is fundamental to explain how these two diametrically opposed approaches can both be justified and explained: are there identifiable environments in which one of these alternative systems is appropriate and others in which the converse is more likely to yield efficient outcomes?

8. Asset or Claimant Based Remedies?

Second, the nonbankruptcy creditors' remedy system focusses on discrete assets in the debtor's inventory. Creditors seize only specific assets, which are then auctioned off. Likewise, security interests convey fractionalized property rights only in identified assets which are the collateral for the secured loan or credit. The creation of collective remedies, on the other hand, opens the possibility that priority ranking could be determined by the characteristics of creditors and could be applied to all of the debtor's assets as a group analogously, for example, to the interests of common and preferred shareholders in a firm. The

issue is then to explain when and how asset-based as against claimant-type-based systems are appropriate.

9. Justifying Priorities?

Third, the priority system is a mixed one. As among creditors using the ordinary legal process to enforce their obligations, the first to complete the process and seize an asset has a priority right to the proceeds of the auction of that asset over the second to seize. Holders of security interests can finish in the race system, on the other hand, not in the order in which they seek to enforce their rights, but rather in order roughly of the times at which they contracted for those rights. In a collective proceeding, on the other hand, it is administratively possible to conceive of other priority systems which, to note the common example, adopt ratable sharing distributions as opposed to lexicographic priorities. Explaining the contrasting systems, accordingly, requires the development of theories of priorities.

10. Reconfiguring Contractual Priorities Ex Post

Fourth, Chapter 11 of the US Bankruptcy Code, which is thought to be a model for collective collection law devices applicable to corporate debtors in the developed and developing world, features a system which alters contractually agreed priorities ex post. How can these such devices be justified and explained?

A complete economic analysis of creditors' remedies must explain each of these four features of the existing dual creditors' remedies system. It is fair to introduce the literature addressing these problems by observing that much explaining remains to be done. What the extant literature does contribute to understanding these features is discussed, issue by issue, below.

D. Should Collection Law provide Individual Remedies or Should it Provide Collective Proceedings?

11. The Costs and Benefits of Multiple Party Involvement

Nonbankruptcy law's preference for an individual versus a collective system of creditors' remedies is presumably based on the avoidance of unnecessary costs. Bowers (1990) argues that involving creditors (A, B, C, ..., M) in a dispute between the debtor and creditor N is likely to be unnecessarily costly. If the system provides easy means for A, B, C, ..., M to intervene into the Debtor/N

dispute, their failure to intervene is good evidence that involving them would be wasteful. Thus the historical face-to-face nature of creditors' remedy law can be understood. Nevertheless, there may be instances in which economies of scale exist in the expenditure of collection effort. Kanda and Levmore (1994) argue in those cases a residual pool of creditors would agree to employ common agents to pursue collection efforts and likewise agree to share in the costs of that effort by adopting a pro-rata distributional rule such as is commonly understood to characterize bankruptcy regimes. The issue thus framed is an empirical one. The fact that the average recovery by creditors in all bankruptcy proceedings is effectively zero (one cent on the dollar; LoPucki, 1996) suggests that the cases in which the advantage rests with collective strategies are few.

12. The Collective Action Problem Model

The most famous law and economics analyst of bankruptcy systems made his name by arguing that when a single debtor has multiple creditors, the creditors may have a collective action problem. The individual incentives of each are to act in ways contrary to the best interests of all (Jackson, 1982). He therefore proposed that the creation of a mandatory collective remedy, which reflected the terms of an idealized multiple-creditor contract to cooperate, could be justifiable as a means of overcoming the collective action problem. Bankruptcy law could be explained if it actually incorporated the terms of that idealized 'creditors' bargain'. The literature developed in three directions from Jackson's basic insight.

(a) Does the Law Correspond with the Model?

First, there is a question whether the quest for efficiency (for example providing a legal solution to the 'common pool' problem creditors face under his analysis) could plausibly be regarded as driving the substance of the actual, existing bankruptcy doctrine. This first line of inquiry was addressed by Jackson himself with his collaborator Douglas Baird. They first attempted to apply the creditors' bargain heuristic to predict the features that an efficient bankruptcy statute would contain. In a series of pathbreaking articles, however, they discovered that the manner in which American Bankruptcy Judges were applying the provisions of Federal Bankruptcy legislation differed from those predicted by their efficiency hypothesis (Jackson, 1984, 1985; Baird and Jackson, 1984, 1985). Jackson and Scott (1989) attempted to account for the previously observed inefficiencies as an insurance mechanism, but conceded that the mechanism was unlikely to prove workable.

(b) Is There Really a Serious Collective Action Problem after all - Is the Model Itself Theoretically Sound?

Research in the second direction challenged the soundness of Jackson's initial analysis. The 'Creditors' Bargain' logic grew from the premise of an assumed 'common pool' problem in which, when the debtor neared insolvency, assets seized and sold by creditor A tended to directly harm creditor B because insufficient assets were left behind to satisfy all remaining claims. This premise is more than simply distributional. Jackson argued, for example, that creditor A would not take the costs to B, C, ..., N into account in making his decision to collect. Thus A would not avoid taking actions which destroyed synergistic values to the assets in the debtor's portfolio. A creditor owed \$100 might take a valuable earring whose stone could be sold for \$100, even when it was a member of a matched pair worth \$300 when kept and sold together. Such losses were avoidable, under Jackson's analysis, by forcing all the creditors to act collectively. Thus, he argued, the nonbankruptcy system had created a system of perverse incentives which, on the occasion of insolvency, were cured by switching over to the bankruptcy model.

Influenced by empirical evidence that the adoption of bankruptcy law had resulted in zero payouts to the supposedly cooperating creditors, Bowers (1990) argued that the Jackson's view was one-sided, because it looked only at the incentives facing the creditors and either ignored the existence of the debtors, or assumed implicitly that debtors were completely passive. Bowers argued that debtors had both the means at hand and the incentive to avoid the losses Jackson predicted would result from perverse creditor common pool incentives. Among the means available to a debtor under the nonbankruptcy system was the power to optimally liquidate its assets and, indeed, subsequent empirical research on the behavior of financially distressed firms (LoPucki and Whitford, 1993b; Gilson, 1996) shows that they do, in fact, conduct substantial asset liquidations. Once the debtor's incentives are brought back into the picture, the hypothesized common pool problem disappears, leaving us once again without a persuasive economic justification for the adoption of bankruptcy law.

(c) Are there Other, Better Solutions to the Collective Action Problem?

The third line of argument spawned by the Jackson creditors' bargain thesis took the law and economics literature in a new direction. It argued that whatever ex post collective action problem the nonbankruptcy system might create can be avoided by the use ex ante of optimal credit contracts (Adler, 1993b). Picker (1992), for example, justified the invention of security devices such as mortgages by showing that the adroit use of security could eliminate common pool problems. Bowers (1991) argued that the default terms of the existing nonbankruptcy system of secured and unsecured credit *already* provided the terms of optimal credit contracts, which tended to induce efficient

distributions of the distressed debtor's least critical assets first to its most vulnerable creditors, thus minimizing the size of aggregate distress losses. Finally, a number of scholars began to argue that the common pool or other perverse incentive problems which might occur in the nonbankruptcy system could be handled by contract (Adler, 1994c). Since corporate debtors probably dominate the economic impact of the American bankruptcy system, corporate finance approaches to the problem of understanding bankruptcy law have argued that borrowing firms are capable of creating new kinds of securities with attendant options and covenants, which can obviate any common pool problem. Since this literature tends also to address the issue of alteration of contractual priorities *ex post*, it will be discussed below in connection with this last issue.

E. Asset vs. Creditor-type as the Basis for Remedies (Herein of the Law and Economics of Security Devices)

13. The Legal Justification for Security

Simultaneously with the bankruptcy debate discussed above, the law and economics literature was also engaged in a vigorous debate about the justification for granting contracted-for priority rights to secured creditors. The legal view of the justification, as exemplified in Kripke (1985) and Carlson (1994) was that security, by reducing the credit risk borne by the secured lender, tended to make loans available that creditors would not make on any other basis and so security interests could be justified on the same grounds that justified the extension of credit itself. In what is, perhaps, the most important article in the law and economics literature concerning priority and security issues, Jackson and Kronman (1979) first developed and used the creditors' bargain theory so influential in the bankruptcy literature, to provide an economic explanation for the development and use of security devices. They argued that an aspect of the creditors' collective action problem was a perverse tendency for creditors to expend duplicate efforts thus over-monitoring the debtor. Security, they concluded, if issued to the least efficient monitors, relieved them of the impulse to monitor, curing the perverse incentive, reducing unnecessary monitoring costs because only the most efficient monitors would have any remaining incentive to do so.

14. The Secured Debt Puzzle

In 1981, however, Alan Schwartz (1981) showed that given some typical theoretical economic assumptions (completely informed, risk neutral creditors,

with homogeneous expectations of the probability of default), the grant of security to a secured creditor tended to do more than just reduce risk to that lender (thus reducing the incentive to conduct duplicative monitoring). In fact, the grant transferred risks onto unsecured creditors who, under these theoretical assumptions, would demand as much compensation for accepting the transfer as the secured party was likely to give as a discount on the interest premium for being granted the security. The corollary as applied to the Jackson and Kronman monitoring thesis was that to the extent secured creditors could safely reduce their monitoring efforts, the grant of security correlatively increased the need for unsecured creditors to monitor, so that the theory could not predict any savings in aggregate monitoring costs either. Following James Scott (1977), Schwartz argued security was in theory simply a zero sum game. If the confederation of security interests is costly, then, the mystery is, why would debtors ever grant them when they stand to gain nothing by it? This analysis, Schwartz pointed out, was simply an application of the famous Modigliani and Miller Theorem (1958) of the irrelevance of capital structure. The argument created what he named and what has since been known as 'The Puzzle of Secured Debt' (Schwartz, 1984). Just as firms obviously invest much energy in designing and adapting their capital structures, they also issue secured debt in the teeth of theories which predict they will not. Schwartz concluded, however, that none of the then-existing theoretical explanations for the employment of short-term security devices could be squared with the empirical evidence, the patterns of secured lending actually observed.

15. Possible Efficient Puzzle Solutions

The Schwartz thesis, that granting security is costly to debtors and gains them nothing is, of course, contradicted by the observation that much secured lending and borrowing actually occurs. It has been observed (Shupack, 1989) that the costliness question is relative - that is, the Schwartz argument loses some of its punch if it is more costly to contract for unsecured lending than to take a security interest. Nevertheless, any explanation for the grant of security must probably show that the issuing of security is likely to be efficient, so that some private gains to the borrower and secured lender must be hypothesized. Theories which explain the private gain as coming from externalizing risks onto uncompensated unsecured creditors, of course, are normatively unattractive. Schwartz (1984) examined several more benign explanatory answers proposed to his original puzzle, including those of Levmore (1982) (proposing that secured parties receive priority in payment for the external benefits their monitoring of the debtor confers on other creditors) and White (1984) (arguing that creditors differ in their levels of risk aversion so that

security is arguably an efficient means of reducing risk to the most risk averse). Schwartz dismissed such theories which, by explaining the existence of private gains to borrowers, however, generate predictions that all borrowing will be conducted on a secured basis, such that all of every borrower's available assets will be encumbered before any unsecured borrowing occurs. All such theories, Schwartz argued, will be embarrassed by the fact that much *unsecured* lending takes place to borrowers with unencumbered assets. It thus seems likely that an eventual persuasive theory will have to show that security is both costly and beneficial, or else that unsecured lending achieves previously unknown gains, in order for it to explain the observed mixture of types of borrowings. A number of such theories have been proposed, which argue that the institution of security is likely to be efficient, including Adler (1993a), Bowers (1991), Buckley (1986, 1992), Kanda and Levmore (1994), Picker (1992), Scott (1986), Stulz and Johnson (1985) and Triantis (1992, 1994). Without some strong empirical confirmation of any of the competing theories, however, none has yet commanded a general level of acceptance in the law and economics community. Indeed, the current majority view is probably that the debate over the puzzle of secured transactions has been inconclusive (Scott, 1994).

16. Inefficient Solutions to the Puzzle

The inconclusiveness of the search for 'benign' explanations for security devices, which explain the use of security as justified by the creation of efficient outcomes, has led to a recent spate of arguments that the institution of secured credit is not only unproven as an efficient practice, but, on the contrary, is positively exploitative and thus inefficient. Schwartz (1981) had initially considered that security devices were employed by lenders and borrowers as means of exploiting creditors, like tort claimants, or consumers who were unsophisticated about the impact that security might have on their claims and who would therefore not increase the risk premiums they charged for becoming unsecured creditors. The distributive thesis, Schwartz argued, could only be proven by showing that firms whose creditors were likely to be unsophisticated were more apt to grant security interests than were borrowers whose other creditors were less easy to exploit. Such behavior should even be evident and the fact that it is not led him to dismiss the exploitation hypothesis. Nevertheless, LoPucki (1994) and Bebchuck and Fried (1996) have recently proposed that the priority extended to secured lenders be partially or wholly abolished to prevent the externalization of risk onto unsophisticated unsecured lenders. Scott (1994) has also suggested that the incentive structures inherent in the private law-proposing organizations which produced the American uniform law on security devices may also create perverse legal doctrine. Adler

(1994a) argues that the Scott hypothesis results from a one-sided analysis. Harris and Mooney (1994) and Carlson (1986) have urged that in view of the inconclusive nature of the economic debate, that the institution of secured credit can be justified by resort to the historical legal theories which have been accepted by courts and lawyers. None of the exploitative or political theories of secured lending have yet gained general acceptance among scholars as explanations for the institution of security. The puzzle, thus, still remains to be solved, or, to say the same thing in another way, none of the existing theories which attempt to explain the institution has yet been proven correct.

17. Asset-Based Security as an Individual Remedy

Schwartz (1989) attempted to change the focus of the argument he himself had created by arguing for the grant of first priority over *all* of the debtor's assets in favor of the the borrowing firm's earliest-to-lend financier. Under his analysis, the grant of priority, which is the functional equivalent of the grant of security in *all* the borrower's assets, can be an efficient way for firms with good projects to signal that they differ from firms with poor prospects. Since the first-in-time priority scheme he proposes resembles the priorities created under the existing law of secured credit, his argument reduces to a plea that the priority system cut loose from the asset-based nature it carries under existing security device law and that a creditor-based priority scheme be substituted therefore. His argument for this change is based, in part, on his assessment that the process of tying public notice to particular assets in the current regime is unduly costly. Bowers (1995) discusses some theoretical reasons why filing systems might impose excessive costs. Kanda and Levmore (1994), on the other hand, argue that notice is especially important only in asset-based priority schemes and is thus not so important if priorities are based on creditor characteristics as Schwartz proposes. Schwartz does not address the inevitable aspect of his proposal, however, that it must necessarily trigger some sort of collective collection proceeding in almost every case of nonpayment. Any second-to-lend creditor whose contract entitles him to be first to collect (as for example when a short-term trade creditor is seeking to collect against a debtor who has financed himself with a relatively long-term loan from the first-to-lend creditor) must involve the long-term financier as well as the debtor in any claim that his debt ought to be satisfied out of any of the debtor's assets, in all of which, under Schwartz's proposal, the first-to-lend financier has a priority interest. Although Schwartz offered his proposal on a conceptual basis only and so cannot be faulted for not having worked through the multitude of legal details which its adoption would inevitably necessitate, it is difficult to imagine that the debtor could even voluntarily *pay* the second-to-lend creditor with

assets in which the first-to-pledge had a superior interest. This look into Schwartz's latest proposal, on the other hand, does generate an explanation for the character of current security device law which is asset-based and not creditor-based. In an asset-based system, in which all the debtor's assets are encumbered, every unsecured creditor must deal with the prior secured lender in order to realize payment of his claim out of any of the debtor's assets. In that kind of case, an asset-based priority system can be seen as requiring a collective determination of the relative rights of at least two creditors every time only one wishes to collect. Unlike a creditor-based system, however, an asset-based system permits debtors to retain some unencumbered assets which creditors can resort to without having to trigger a collective proceeding. The choice of asset vs. claimant-based priority rules, then, can be seen as another aspect of the choice between adopting individualized vs. collective creditors' remedies. Particularly when priority rules are claimant- rather than asset-based and claimants exist in large classes (such as, for example, when there are many shareholders and many unsecured creditors who share strata of priority), for any individual member of any class to collect, a legal proceeding almost necessarily must involve all the members of the claimant's own class, as well as all the members of any competing class in the process.

F. The Economic Analysis of Creditor Priorities

18. Nonbankruptcy First-In-Time Priority

As has been previously set out, existing legal doctrine contains two different, but concurrent priority paradigms. The nonbankruptcy system of individual remedies is, principally, one of temporal priority. Early lending secured creditors and early seizing creditors prevail over later ones. There are, however, exceptions. One of the chief deviations is in favor of later lending secured parties who are granted a 'purchase-money' priority over earlier lenders claiming security interests in the same collateral. Certain statutory lien claimants also prevail over earlier perfecting secured lenders. In admiralty, there are many later-in-time but first-in-priority claims to interests in vessels. Lawyers probably deem the first-in-time priority as the general rule and the last-in-time priority cases as exceptional. Probably for that reason, the law and economics analysis has begun by attempting to understand the general rule first. Very little progress has been made in explaining the last-in-time priority cases. Before discussing what there is on that score in the literature, therefore, we will first address the temporal priority scheme in general.

(a) Capricious Factors Influencing Racing Outcomes

The outcome of the race among unsecured creditors can be influenced by a variety of arbitrary factors. Among the most capricious is the variance among courts in time-lags for obtaining judicial relief. The race is normally won by successfully completing a lawsuit, after which a judgment can be entered. The right to seize and sell the debtor's assets is usually assertable only after judgement has been obtained. *Ceteris paribus*, then, creditors suing in jurisdictions which have a year or more delay between the time a suit is commenced and the time at which it will be called for trial, will be disadvantaged in the race as compared with competing creditors who are capable of maintaining their actions in venues with shorter trial calendars. Perhaps to eliminate the capricious effects of these arbitrary factors, the common law developed a set of devices under which a creditor can, at the time of commencing judicial proceedings, reserve an early place in the order of finish, conditional only on completing the judicial proceedings.

(b) Finishing-Place Reserving devices and Investments in Collection

The race system's prejudgment finishing-place reserving devices such as writs of attachment or sequestration, or notices of *lis pendens*, if freely available, would make the race among unsecured creditors more closely resemble the order in which their causes of action arose and thus susceptible to more reliable planning at the time credit is initially extended. The creditor making the first loan to become due would be more likely to become the first-in-line. In the last 30 years, however, the use of prejudgment writs has been restricted in the United States on constitutional grounds in a series of important US Supreme Court cases: *Snaidach v. Family Finance Corp.* 395 US 337 (1967); *Fuentes v. Shevin* 407 US 67 (1972); *North Georgia Finishing, Inc. V. Di-Chem Inc.* 419 US 601 (1975). The court found the writs objectionable, however, only on grounds that they invaded constitutional interests of the debtor. Their impact on the priority as among creditors was not attacked and it is conceivable that constitutional, prejudgement priority-reserving devices could still be designed to meet that need. Indeed, however, the recording of public notice of a security interest is an equally effective way of reserving a priority position at the time credit is extended and thus may have rendered the prejudgement collection writs superfluous in any case.

Much unsecured credit is extended on a demand basis, however, so that an initial lending unsecured creditor cannot easily assure himself a head-start in the race system if he lends for a fixed term. Later demand-basis lenders will always be able to get the jump on him. Typical loan agreements attempt to enhance the likelihood of a more nearly even starting time, however, by permitting lenders to accelerate the due date upon adverse information, for example the calling in of a demand loan by another creditor. Thus, while one

might argue that the nonbankruptcy priority system has a tendency to favor the earliest to lend creditor, it is more likely that it favors the earliest to discover the circumstances putting the debtor in default. This tendency of the unsecured creditors' racing system to induce careful creditor monitoring of the debtor has been regarded in the literature as a mixed blessing. Monitoring tends to reduce debtor misbehavior, but the system also tends to induce creditors to monitor each other, a potentially wasteful expenditure in light of the possibilities that creditors could agree to cooperate rather than compete with each other in monitoring. Indeed, however, Picker (1992) has shown that the use of security devices tends to enable creditors to avoid some of the expenses of monitoring each other. Bowers (1991) on the other hand, has argued that those creditors who are most vulnerable to losses from debtor default will be apt to invest in contract terms which permit early starts in the race and will also make the greatest investment in racing and thus tend to obtain proportionately greater recoveries than will creditors who are less vulnerable. Thus, it is arguable that the tournament-like system of the race among unsecured creditors has a tendency toward efficient outcomes. Those who invest in winning the race are presumably the more efficient creditors and will be rewarded by the existing nonbankruptcy system.

(c) Payments as Priorities and the Law of Preferences

The far more promising strategy for unsecured creditors rather than planning on winning a race through the judicial process, is to create incentives to induce debtors to voluntarily repay their debts. Credit contracts can and do frequently contain provisions which are designed to induce a debtor to pay a particular debt instead of other ones. Discounts for prompt payments and penalty or late-fees are common such devices. Creditors with whom the debtor does repeat business are also in positions of leverage, capable of cutting off profitable future business if past debts remain too long unpaid. The utility companies, by threat to cut off power and water to their deadbeat customers, are only the most obvious examples of creditors who can employ such strategies as substitutes for judicial collection effectively. Nevertheless, even if the collection tournament includes nonjudicial strategies, it is still arguable that those creditors most vulnerable to loss will invest the most in designing contractual inducements for voluntary preferential repayment, and will invest most in post-default collection activity and are thus likely to be preferred.

One typical structural feature of bankruptcy law, however, is a doctrine that sets aside preferences. In order to discourage premature dismemberment of potentially viable firms, it is argued, measures need to be taken to discourage creditors from 'opting out' of the bankruptcy fixed priority scheme in advance of the bankruptcy proceedings (Jackson, 1986, p. 125). If the tournament-like results of debtor preferences are likely to produce efficient results (payments to the most vulnerable creditors first and in such a way as to maximize the value

of the debtor's remaining portfolio left available to the remaining creditors), then the need for an efficient collective regime, particularly one to be protected by preference law, is questionable. What is more, Adler (1995) has shown in addition that, for corporate borrowers, the existence of a collective action problem itself impedes the effectiveness of any rules which attempt to prohibit debtors from making preferential transfers to creditors and that preference prohibitions may in fact *diminish* the value of the debtor's estate available to satisfy the claims of its creditors.

19. First-to-Perfect Priority Among Secured Creditors

The first-wins priority scheme for secured creditors is explainable on a more straightforward basis. In it, each creditor can fix his or her place in the race for the debtor's assets at the time credit is extended. Those making later loans will be on notice that they will come in second in the race and can thus adjust the amount they choose to lend and the terms of their credit contracts to account for that fact. The expenses of earlier lenders in accounting for later creditors is likely to be exorbitant since the facts about later loans cannot be learned at the time the contracts are entered into. Thus, the basic secured creditor priority system can be explained as the one which permits the creditors to adjust to each other most cheaply. To the extent that this rationale is explanatory, however, it also makes the few instances in which last-to-lend creditors are given priority, even more mysterious.

20. Nonbankruptcy Later-in-Time Priorities

The earliest attempt to provide an economic explanation for a later-in-time priority involved the so-called 'purchase-money priority' of lenders who take as collateral, the very assets purchase which their extensions of credit financed. In an asset-based lending system, this transaction might be viewed as a first-in-time transaction because the taking of security in the asset occurs at the very first instant at which the collateral became part of the debtor's estate. The American Uniform Commercial Code, however, contemplates that borrowers can grant security interests to earlier lenders in after-acquired assets. The priority of the purchase-money lender, consequently, simply means that the purchase-money financier prevails over the after-acquired property interest of the earlier lender. Thus, what looks like a last-in-time priority may also be seen as nothing more than a limitation on the powers of debtors to pledge and of lenders to take security in future assets. None of the investigations to date, however, has asked whether there are efficient limits to the pledge of

after-acquired assets. Jackson and Kronman (1979) addressed purchase-money priority as if it were a preferred default clause in the credit contract which created the earlier security interest in after-acquired collateral. Unless it could grant purchase-money priority to future lenders, they argued, the debtor was effectively committed to obtain all future financing from the initial lender. Since few debtors would willingly grant situational monopolies to lenders without asking for significant other concessions, they hypothesized that the parties to the initial credit contact would choose a purchase-money escape-hatch clause in their contract and were saved the expenses of doing so by the priority provisions of the Code. Schwartz (1989), in his proposal to permit first priority to the first significant financier in all of the debtor's assets, also argues that the parties might bargain for purchase-money priority exceptions for sufficiently insignificant after-acquired asset purchases.

The latest attempt to explain later-in-time wins priority provisions is Levmore and Kanda (1994). They begin by espousing the recent trend in the law and economics literature to assume that existing doctrine was intended to address the problems of corporate borrowers. They then argue that the basic first-in-time gets priority rule is justifiable as a means of protecting early lending creditors from the perverse incentives which attract the equity owners of corporate borrowers to overinvest in excessively risky projects. Not all investments in the firm necessarily exacerbate the overinvestment incentive, however and, Levmore and Kanda surmise, later lenders have an informational advantage over earlier lenders about new investments the firm is undertaking. When, then, the informational advantage is significant and the environment is such that overinvestment is not likely to be a serious risk, they argue, one might expect to see a later-in-time priority rule to displace the basic scheme as a means of encouraging investment in the firm's latest prospects by well-informed lenders. This approach to explaining the mystery of late-in-time priority rules seems promising. On the other hand, the argument that each existing later-lender-gets-priority rule can be explained as being confined to an environment in which overinvestment risk is minor, is empirically speculative.

21. Liquidation Bankruptcy Priority

The shape of the asset-based, first-in-time nonbankruptcy priority system conforms to the underlying assumption that the collection of obligations should be regarded as an individual matter, strictly between the debtor and the creditor. They are free to write credit contracts which meet their individual needs and to pursue the remedies they have bargained for on the basis of their individual circumstances. Particularly, however, once the debtor nears insolvency, the actions taken by any individual creditor arguably create a risk

of external impacts on the welfare of competing creditors. Nothing in the contracting system in which the extension of credit is bargained for requires any creditor to modify the terms of his contract in order to coordinate his contract rights, or his ultimate legal remedy, with others who may have an interest in the debtor's fortunes. American lawyers intuit that on the occasion of insolvency some sort of coordination among creditors is required, and on that basis have built their basic understanding of the justification for bankruptcy law.

The basic priority system in the collective regime is complicated by the fact that, in theory, bankruptcy is designed to partially enforce the rights creditors acquire in the nonbankruptcy system. Thus, for example, secured creditors are technically entitled to recover the value of the collateral securing their debt to the extent that it is less than or equal to the amount owed. The extent to which this entitlement is enforced in actual bankruptcy proceedings, however, depends on whether the particular bankruptcy is a reorganization or a liquidation case. Reorganizations are discussed in Part G below. Since the legal priority rules which nominally create the baselines for distributions in reorganizations are the priorities which prevail in liquidation cases, it is useful to discuss these rules first.

(a) Class-Based Distribution

The archetypical bankruptcy proceeding is Chapter 7 of the US Bankruptcy Code. It can be initiated by either the debtor or a group of creditors and once the proceedings commence, all individual collection activity by all creditors is stopped by the issuance of an automatic injunction. Almost immediately the bankruptcy trustee, an agent to represent all the claimants, is appointed and given control over all of the debtor's assets. The trustee then liquidates the assets, either in the ordinary course of the debtor's business, or else by auction, converting all of them into cash. The proceeds from the sale of collateral are paid to secured creditors. The remaining cash is distributed to various creditors according to the Chapter 7 priority scheme, which first sets up a set of several classes of creditors holding 'priority claims'. The claims of the first priority are paid in full and only in the event there is cash remaining are distributions made to the next class and so on until all claims are paid. Creditors in the last class for whom the assets are sufficient for a distribution, but not enough to satisfy all the claims in the class, receive partial payments of the sum left undistributed in the debtor's estate, but are paid among themselves in proportion to the size of their claims - the so-called 'pro-rata equality' formula.

The literature has not addressed the question whether the existing fixed priority scheme of liquidation bankruptcy regimes can be economically explained. The first priority class are so-called 'administrative priority' claims. The preference shown to these claims can probably be understood best as answering the need that the costs of the collective proceeding must be paid if

there is to be any proceeding, but in fact the bulk of all US bankruptcy cases are those of individual debtors whose assets have no remaining distributable value once they enter bankruptcy. Bowers (1990) argues that debtors attempting to maximize the value of their assets will self-liquidate before their creditors force them to do it involuntarily and that the result of such self-liquidations will be that only highly-specialized assets and those which have the highest transaction costs to liquidate will remain in the debtor's inventories as of the time they are surrendered to creditors. The fact that the bankruptcy estates of individual debtors are basically empty can thus be explained.

(b) Sympathetic Classes

The remaining classes of priority claims are more difficult to justify on efficiency grounds. Unpaid employees, certain farmers and fishermen and some consumers having made deposits on undelivered merchandise are sympathetic creditors who might be expected to find favor in the legislative arena in which bankruptcy legislation has traditionally been crafted. Tax collectors get priority for similar easy-to-understand political reasons, even if they do not merit much sympathy. The existing list of priority creditors does not exhaust the list of possibly sympathetic claimants. The omissions inspire demands that tort-victims of the debtor be given priority, even over the claims of secured creditors (for example, see LoPucki, 1994).

(c) Behavior Invariant Loss Sharing Rules

The principally important feature of the statutory priority system, however, including the catch-all pro-rata formula for the bottom priority creditors, is that it is fixed in advance and, thus, will not vary with creditor behavior. In the nonbankruptcy race system, for example, a creditor stands to make gains from obtaining information earlier than competing creditors so as to get a head-start in the race for the debtor's assets. The payouts in the collective regime, however, are fixed in advance and will not vary much according to creditors' investments in monitoring or collection efforts. A creditor who carefully monitors the debtor thus must share with the other creditors the gains from early detection if a collective proceeding ensues. If over-monitoring is a potential problem (Jackson and Kronman, 1979), or if racing costs are viewed as potentially wasteful (Jackson, 1982), then the fixed priority system imposed by bankruptcy law might be justified as a cure for the adverse effects of those perverse incentives. On the other hand, it has been shown in other contexts that mandatory equal sharing rules can block co-owned assets from being moved to higher valued uses (Easterbrook and Fischel, 1991, p. 118; Harris and Raviv, 1988; Kahan, 1993). The sharing regime gives some creditors incentives to free ride on the efforts of other creditors to monitor and force an ultimate liquidation. In the face of empirical complaints that bankruptcy proceedings

might thus not be initiated soon enough, there are proposals in the literature to pay a bounty to the creditor who triggers the collective proceeding (Jackson, 1986; LoPucki, 1982). Of course, bounties are difficult to design and may give rise to races for the bounty, over-monitoring so as to be able to win the race to the bounty, and so on. The perfectly designed, happy medium liquidation bankruptcy structure which avoids both sets of perverse incentives, however, has not yet been developed in the literature.

G. Corporate Reorganization Bankruptcies and Ex Post Modification of Contractual Priorities

22. The Problem of the Corporate Borrower

The most heavily studied aspect of the issues raised in this chapter, is the question of what should be done when *corporate* borrowers incur financial distress. Although the bankruptcy code applies to individuals and other kinds of entities which become borrowers, the law and economics literature on this question has typically attempted to explain bankruptcy solely as a means of solving the collective action problem which *corporate* investors will foreseeably face. Until recently, the literature has assumed that the archetypical corporate bankruptcy law was Chapter 11 of the US Bankruptcy Code. The collective action problem is seen as the result of the content of the borrower's ex ante credit contracts and the nonbankruptcy law of creditors' remedies which permits creditors to race for, seize and sell the firm's assets. Bankruptcy law could be justified and understood if it addresses the collective action problem by refusing to enforce the suboptimal prebankruptcy market credit contracts and altering their terms ex post so that the set of post-reorganization claims against any debtor firm will more closely approximate an optimal capital structure.

Recently, however, the companion literature on comparative corporate governance has raised the interesting possibility that corporate reorganization might be just an American problem. Roe (1994, Ch. 11) has shown that German and Japanese firms, for example, are subject to a great deal of management control by their financing banks, who also wield influence with the firm's other suppliers and customers. The relational lending regimes which result have the potential to essentially privatize the process of reorganizing financially distressed firms. Roe points out that the relational techniques have been politically outlawed in the US which might explain the American preoccupation with corporate bankruptcy law.

23. The Illusive Problem of Optimal Capital Structure Design

Presumably since any given firm's optimal capital structure cannot be specified in advance, the law of corporate reorganization replaces the nonbankruptcy and liquidation bankruptcy result of predetermined priorities with a non-predetermined scheme. The priority rights in the reorganized firm are not spelled out in the statute. Rather, it provides an extensive set of procedures under which a 'plan of reorganization' is developed and adopted for each bankrupt firm. The actual priorities awarded the claimants holding prebankruptcy contracts, then, is specified only *ex post* in the plan. It is well understood that the procedures under which such plans are developed dilute the value of contracts which provide for the claimant to receive high priority and, correlatively, enhance the distributions to those whose contracts called for them to have the lowest priorities. What is not so well understood, however, is how altering the prebankruptcy priority contracts contributes to the solution of any collective action problem (Adler, 1992).

From a law and economics viewpoint, the efficacy of this legal strategy for avoiding the collective action problem depends on whether we have developed a comprehensive theory of optimal capital structure for any given type of firm in the first place. If a firm's optimal capital structure is determinable, on the other hand, the coherence of the bankruptcy scheme must rest on some unarticulated explanations for why the investors' contracts cannot be expected to have already provided for the optimal outcome such that the resulting contracted-for priorities should not be enforced in the bankruptcy reorganization. As the law and economics literature has refined its definition of the issues needed to understand bankruptcy's corporate reorganization provisions, it has become increasingly obvious that these questions have not yet been answered. The answers are likely to come from the subfield of corporate finance.

24. Nonbankruptcy Organizational Solutions to the Structural Problem

To begin with, firms need incur the prospect of collective action problems only by choice. Business projects can be organized in all-equity entities or those which are solely owned by a single investor and which pursue whatever projects that controlling investor deems most efficient (Baird, 1994). It is even probable, based on the beginnings of relational theory in the literature (Scott, 1986; Eric Posner, 1996; Bowers and Bigelow, 1996), to suppose that relational behavior can solve all the parties' collective action problems. Multiple investors who are also actively relationally involved with each other can join together in a business partnership venture and function as if they were a sole investor, so long as the necessary acts of relating reduce transaction costs sufficiently

among them as to invoke the Coase Theorem (Coase, 1960). Since most corporate reorganizations in the United States are of small firms (Bufford, 1994) which are thus arguably unlikely to face significant collective action problems, it is probable that US Corporate Reorganization law cannot be justified and explained by the need to solve small firms' problems.

25. The Contributions of Well-Functioning Capital Markets to the Problem of Capital Structure Design

The law and economics literature has focussed almost entirely on the optimal capital structure problems of firms of significant size and thus has assumed that Corporate Bankruptcy Reorganization law must be intended to address the problems of such firms for whom serious collective action problems are likely to exist. The debate over the significance of these problems has been recounted earlier in Section D discussing the justifications for development of collective remedy systems. Nevertheless, early in the debate Douglas Baird (1986) argued that the existence of well-functioning markets largely mitigated the possibility of any serious collective action problems for large, listed firms. The debate over what purposes corporate reorganization bankruptcy might serve has been conducted ever since between groups who, on the one hand, believe that almost all market results are inferior to bureaucratic decision making (LoPucki, 1992; Warren, 1992a) and those, on the other hand, who are persuaded that the existing capital markets function fairly well (Bowers, 1993). The latter scholars have concluded from the data that Chapter 11 of the Bankruptcy Code has been punishing to investors (Bradley and Rosenzweig, 1992), without obviously assisting other recognizable groups of claimants (Bowers, 1994b).

26. The Valuation Problem with Bureaucratic Solutions

The logic underlying the corporate reorganization provisions of the US Bankruptcy Code ('Chapter 11') has always been that firms, even those in financial distress, have so-called 'going concern' values which are lost if the firm is broken up by having its assets sold off piecemeal. The collective action problem is seen as the incentives of individual creditors to race to dismember the firm on the first suspicion that it is headed for insolvency thus possibly destroying that going concern value (Baird, 1987a; Eisenberg and Tagashira, 1994). The structure of Chapter 11 is consistent with this explanation. When a firm files for Chapter 11 relief, all individual creditor actions to seize any of the bankrupts' assets are automatically enjoined and the assets are never, in fact, liquidated. Instead, the firm is recapitalized, with its old creditors

becoming its new shareholders. Stock in the reorganized firm is swapped for the original debt. This result cannot obtain in legal theory, however, unless the equities distributed to the former creditors exceed the estimated value the creditor would have obtained in a hypothetical liquidation bankruptcy. In other words, the expectation is that the claimants' new interests in the firm will exceed the liquidation value of their interest in the unreorganized firm, presumably by the amount of the saved going concern surplus.

The theory behind the provisions, however, has failed the test of practical applicability. Since the going concern value is necessarily the present market value of the firm minus the amount the assets would have sold for if liquidated and the firm is never presently sold on the market nor are its assets ever liquidated, the going concern value for any firm in Chapter 11 is simply a hypothetical construct. Hypothetical liquidation values estimated for use in the proceedings, in particular, are quite problematical because they are apt to be extremely context contingent. If you ask me to estimate how much I can sell General Motors for, but specify that I must sell it in the next five minutes, its liquidation value is equivalent to my estimate of the maximum amount of cash in the heaviest purse of the 23 persons within hailing distance. Prebankruptcy holders of the lowest priority claims (usually common equity) have an incentive to overstate the hypothetical going concern value of the firm so as to buttress their claim to have part of the reorganized firm distributed to them. They likewise have a strong incentive to understate the liquidation value of the firm's assets because that minimizes the baseline distributional entitlements of the creditors in the reorganized firm. The costs of trying to value the firm, without conducting any actual market transactions, are thought to be extremely high (Altman, 1984; Bhagat, Brickley and Coles, 1994; Opler and Titman, 1994). The actual values which the bankruptcy judge might determine the assets would have sold for and what the reorganized firm will be worth, are sufficiently uncertain that the multiple claimants are not inclined to want to litigate them. Since management representing the common shareholders remains in control of the firm while the renegotiation of its capital structure is ongoing, Chapter 11 confers on management and common equity something akin to a legal right to engage in holdout behavior. As a consequence, it is common knowledge that the interests in the reorganized firm are not distributed to the claimants in accordance with their prebankruptcy contract priority rights. Those empowered to hold out commonly improve their ex ante contractual priority at the expense of creditors (Eberhart, Moore and Roenfeldt, 1990; LoPucki and Whitford, 1990; Warner, 1977; Weiss; 1990).

27. Proposals for Curing the Valuation Problem

Much scholarly creativity has been thrown into the effort to develop a better way to avoid the collective action problem and at the same time cheaply and accurately value the firm, or avoid the incentives to engage in ex post rent-seeking built into the current Chapter 11. Roe (1983) proposed an initial public offering of a small portion of the securities intended to be distributed to claimants in the reorganization as a more accurate way of evaluating whether the securities being swapped for debt had incorporated any real going concern value. Bebchuck (1988) proposed instead that each claimant be granted an option to buy the rights of the next most superior priority level at their face value or else lose their interest in the firm. Thus, the lowest priority level not bought out would end up holding the residual claims to the firm. Merton (1990) offered a similar proposal. Aghion, Hart and Moore (1992, 1994) proposed still another refinement on the Bebchuck scheme. They suggested that the Chapter 11 court, once having identified the appropriate holders of the residual interest in the firm from the exercise of the Bebchuck-type options, thereafter permit them to vote on new capital structure proposals offered by competing management groups. Baird (1986) proposed that instead of elaborate and expensive recontracting, that the firm simply be auctioned off in Chapter 11, with the auction proceeds being distributed in accordance with priorities fixed in the claimants' pre-bankruptcy investment contracts. Whatever going concern values the firm had would presumably be saved by being included in the price the winning bidder was willing to pay, buying the firm as an intact unit. Since the auction proceeds could be distributed in accordance with all the claimants' prebankruptcy priority contracts, the auction argument also showed that the solution to the collective action problem did not necessitate ex post modifications of those contracts. Auctions are, nevertheless, known to entail their own transaction costs and imperfections (Baird, 1993; Cramton and Schwartz, 1991; French and McCormick, 1984).

Adler (1993b) and Bradley and Rosenzweig (1992) both proposed that firms might issue new types of securities which automatically erase the lowest priority claims upon a default of an obligation to the next higher priority class and simultaneously place that next-higher class in control of the firm. Adler's proposal also was to eliminate the individual collection rights of holders of any of the contingent securities, thus eliminating any right and therefore any incentive for individual creditors to take action to dismember the debtor, and powerfully eliminating any justification for Chapter 11 if it was designed to ameliorate the collective action problem which arises when creditors have rights to act individually.

All of these proposals to reform Chapter 11, on the other hand, seem implicitly to accept that permitting individual creditors to enforce their credit

contracts under nonbankruptcy law creates such significant collective action problems that a mandatory collective type proceeding is required as a solution. Some proposals offer the possibility that hybrid collective/individual type processes might improve on Chapter 11. Baird and Picker (1991) propose that a collective stay be imposed on smaller creditors while permitting a single major financing creditor to individually decide whether to liquidate or continue the firm. Perhaps the most comprehensive proposals were those of Rasmussen (1993) and Schwartz (1993) under which individual firms would be obliged to specify the details of the collective program claimants against them would be required to adhere to.

All of these proposals share the strategic presupposition that firms themselves can, in the design of their credit contracts or securities, also include contract terms which will ameliorate the collective action problems which might arise thereafter, by specifying a collective procedure in which the claims would to be processed (Adler, 1994b). The fact that firms never seem to have attempted to use these devices then gives rise to some interesting empirical inferences. Perhaps the theoretically alarming collective action problem is not, in practice, as dreadful as armchair theorists and congressmen have feared. Adler (1993a) argues that automatically recapitalizing securities, at least, may not have been adopted for a variety of unrelated tax, tort and corporate law reasons. A recent study (Gilson, 1996) showed the most astonishing difference between failing firms which recapitalized using Chapter 11 and those recontracting outside of a regulated bankruptcy proceeding was that the net-operating-loss carry forwards (NOLS) of the chapter 11 firms were nearly 5 times larger than those which recapitalized privately. This suggests that Chapter 11 may provide a technique for obtaining favorable corporate income tax treatment, a justification far afield from those currently speculated about. It is not easy to see, however, why a distressed firm should to be required to undergo the details of a Chapter 11 reorganization before being entitled to these particular tax benefits. Such an understanding would have to proceed first by elaborating on the desirability of the creation of NOLS in the first place.

28. Bankruptcy and Investment Incentives

As the previous discussion showed, the collective action problem faced by a firm's creditors can be addressed without altering the investors' prebankruptcy priority plans *ex post* (Schwartz, 1994b) and Rasmussen (1994b) proposed that refusing *ex post* to honor investors' prebankruptcy priority contracts might be explained by their affects on the firm's near-insolvency investment incentives. They both concluded that none of the proposed contractual means of addressing the potential collective action problems could be judged better on this *a priori*

basis, however. The inconclusiveness of these affects they deemed as a strong argument for giving individual firms their own ability to choose among a 'menu' of different possibilities for the proposal which best suited the concerns of that particular firm.

Even if a one-size-fits-all bankruptcy regime could be improved upon by allowing each firm to tailor-make its own procedure, however, in the absence of a comprehensive understanding of how to create an optimal capital structure it is not easy to know how investors could value the differing choices on the resulting menus. The theoretical difficulties of knowing why capital structures might even matter raised by the Miller/Modigliani irrelevance theorem (1958) have begun to be overcome, largely as an offshoot of the theory of agency costs has developed (Jensen and Meckling, 1976). It is now understood that debt in a firm's capital structure contributes to the firm's value by imposing discipline on managers whose personal incentives do not coincide with the desires of their principals, the equity investors. Fixed obligations impose a measurable task on management either to operate the firm profitably enough to raise the cash needed to meet the fixed obligation, or else to subject themselves to the discipline of the financial market in order to obtain the funds they need to operate the business (Easterbrook, 1984; Grossman and Hart, 1982; Jensen, 1986; Triantis, 1994). Since only firms with debt can incur financial distress, the overall expected gains from reduction of management misbehavior must be greater than the prospective losses which the existence of debt may create.

(a) Entrenchment

Aside from the ex post collective action problems supposedly met by Chapter 11, it is also known that the existence of debt in the firm's capital structure has some downsides. First, just as debt is thought to reduce agency costs by controlling management's powers over the firm's free cash flow, it is also recognized that the existence of debt gives rise to the positive probability of a financial default. Managers may fear that if the firm is to be liquidated upon default, they will lose their valuable positions, including some firm-specific investment in human capital. This reasoning gives rise to the perverse incentive known as management entrenchment. When the firm has issued debt, managers will tend to warp the firm's investment decisions in favor of those projects in which managers can make themselves indispensable, even though these projects are not necessarily those with the highest net present values to investors (Morck, Shleifer and Vishny, 1989; Bebchuck and Picker, 1993).

(b) Overinvestment

Second, it is now well understood that especially as the firm nears insolvency, that low priority claimants have a perverse incentive to gamble with the firm's assets, since they can pay off the higher priorities with the winnings and keep

the profits for themselves, but all the losses will be imposed on the higher priority claimants. This set of perverse incentives is known as the Jensen and Meckling (1976) 'overinvestment' problem. The current bankruptcy regime is sometimes thought to ameliorate this incentive by refusing to enforce the investors' ex ante contracts which require that equity to be totally subordinated to debt claimants. If, as is known to be the case, Chapter 11 distributions deviate from the absolute priority rule, then the managers and equity may be gambling with some of their own money when they undertake risky projects and will be less inclined to do so. Insofar as these risky investments were likely to be in negative net present value projects, then the deviation from absolute priority might even be applauded as a means of avoiding socially detrimental wasteful investment decisions. On the other hand, it has also been shown that priority redistributions in bankruptcy creates a classic case of moral hazard for *solvent* firms. By insuring management and equity against losses if insolvency eventuates, it is likely to aggravate the tendency of equity-holders and their managers to undertake undue risk during the periods when the firm is solvent (Adler, 1992).

(c) Underinvestment

The third perverse incentive known to haunt capital structures which contain debt is the so-called debt-overhang, or Myers's (1977) 'underinvestment' risk. If the firm is nearly insolvent and is presented with a promising investment opportunity, equity (and management, their agents) may decide to forgo investing in it because the payoffs are likely to be captured entirely by the higher priority creditors. In that way, the existence of debt may cause the firm to forgo the opportunity to invest in positive net present value projects. For firms with investable internal funds, then, eliminating the claims of the higher priority creditors ex post in order to make distributions to the lowest priority claimants (equity) is a way of permitting equity to share in the returns from those valuable projects (Rasmussen, 1994b). Once in bankruptcy proceedings, the bankruptcy judge may approve subordinating senior claims to those of new financiers in order to overcome this underinvestment incentive (Triantis, 1993a).

Nevertheless, Schwartz (1994b) has shown that if the firm must resort to the capital markets in order to obtain the financing for positive net present value projects, then the failure to enforce pre-bankruptcy priority contracts creates an underinvestment incentive even for *solvent* firms and exacerbates those incentives for nearly insolvent firms. Generally, he argues, outside financiers, aware that their nonbankruptcy priority will not be honored in a Chapter 11, will insist not only on market returns for their investments, but also will insist on extra returns for being forced to bear the costs of the bankruptcy redistribution. The extra returns they will insist upon will render otherwise positive net value projects not worthwhile to undertake at the margins. It is thus

an empirical issue whether the extra underinvestment risks which bankruptcy reorganization imposes on solvent firms and on those who must resort to the capital markets to finance their projects and are near insolvency, are outweighed by the mitigation of those risks to nearly insolvent firms with internal investable capital.

In summary, the current American corporate reorganization scheme has not yet been satisfactorily explained. In the first place, the collective action problems it seems designed to address may not be so serious after all, and in the second place, even if they are serious, they are capable of being addressed more cheaply by altering the contractual terms of credit contracts and securities. Finally, corporate reorganization's failure to honor prebankruptcy contractual priorities does not seem to address management entrenchment, the first set of perverse incentives which inhere in corporate capital structures. The impact of denying enforcement to prebankruptcy contractual priority is, at best, ambiguous with respect to both the overinvestment and underinvestment perverse incentives.

29. Structures with Preplanned Liquidations

Adler (1997) has recently suggested that the failure of law and economics scholarship to develop a satisfactory explanation for corporate reorganization bankruptcy may be due to a flawed initial premise generated by a faulty *ex post* point of view. He suggests that asking why and how investors would like to be able to salvage going concern values, as looked at from the point in time when the debt obligations of the firm go into default themselves, ignores a significant feature of any business's necessarily prior decision to select its capital structure. The *ex ante* point of view, from the time the structure is designed, he suggests might offer a more fruitful perspective. Investors at the time the firm is structured may purposely design the firm so that it experiences financial distress whenever it is also likely to become economically inviable. Bowers (1991) had, in a similar vein, proposed that firms might employ security interests in a manner which would build self-executing optimal liquidating plans into their capital structures.

Firms whose projects have no economic value ought not to be reorganized. Instead their assets ought to be redeployed to higher and better uses. It is a commonplace that, *ex post*, managers (Rose-Ackerman, 1991) and lower priority claimants (Bebchuck and Chang, 1992) have an incentive to fuzz the distinctions between economic and financial viabilities simply to milk the higher priority creditors for the last available dime before the firm must cease business, and that they apparently succeed in doing so (White, 1994a, b). Describing the optimal moment at which management's control over the assets should be eliminated is a formidable task (Buckley, 1992). Even if the initial capital structure design does not perfectly separate the economically from the

merely financially inviable firms ex post, however, the gains from rehabilitating a few firms may not be worth the losses from attempting to save a multitude of unsalvageable ones. Chapter 11's record for rehabilitating firms is not a stellar one (Hotchkiss, 1996). The potential for an out-of-court workout also provides a failsafe mechanism if the capital structure turns out, ex post to have been an especially bad predictor (Fitts, et al., 1991; Gilson, John and Lange, 1990; Haugen and Senbet, 1988).

30. Nonbankruptcy Law's Responses to Perverse Investment Incentives

This insight might in fact explain the nonbankruptcy creditors' remedy system in which, if creditors are unpaid, they can trigger a liquidation which will send the firm's assets back into the market to be reallocated to better uses. The nonbankruptcy system also can address some of the perverse incentives built into typical capital structures having a debt component. The overinvestment incentive is addressed by permitting creditors to seize the assets of the firm. Once the assets are seized, equity and its management can no longer gamble them on risky ventures. Furthermore, even management entrenchment can be resisted under the nonbankruptcy system. Creditors who can effectively precommit to a version of the 'grim' strategy, to seize and sell whatever assets the managers invest in, can eliminate the incentives of managers to invest in them even if such investments owe a lot of their value to information which is private to the managers. It is only the prospect of a job in the reorganized project which permits the entrenchment incentive to operate. An absolute commitment to liquidate rather than reorganize thus makes entrenchment prospectively unprofitable. In that sense, then, one of the most serious of the perverse incentives is *created* by the law of bankruptcy reorganization..

The final perverse incentive that arises under capital structures which include debt, so-called underinvestment, may also not be of the sort which can easily be resolved by altering the terms of credit contracts. The potential positive net present value project which might not be exploited in the future, is difficult for the initial investors to describe in their present contracts. The underinvestment incentive is not addressed by corporate reorganization bankruptcy doctrine either. The problem, thus, may be practically intractable. In that case, the investors may conclude that if the firm suffers distress, its assets ought not to be deployed in any new projects in a firm still laden with the old capital structure. The best alternative may be to liquidate the old firm and to structure a new one in order to pursue the new investment opportunities. It seems unlikely that a satisfactory explanation and justification for any sort of corporate reorganization law will be possible until such time as a generally acceptable model of optimal initial organization is developed. While the shape of such a model might be inferable from the actual behaviors of investors and executives, the empirical literature to date has not succeeded in distinguishing

the essentials from the noise. Nor has the theory of corporate financial structure yet advanced to the point of offering a satisfying understanding.

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